

### REMARKS

With respect to the objection to the drawings, set forth in Paragraph 1 of the Office Action, Figure 4 is mentioned in the description at page 8 line 4.

Claims 1 and 2 have been amended to overcome the "insufficient antecedent basis" comment set forth in Paragraph 3 of the Office Action.

Reconsideration and allowance of claims 1 and 2, rejected under 35 U.S.C. 112, second paragraph, are respectfully requested. The words "a predetermined set of rules" make clear that each data value of the plurality of data values is associated with one of a plurality of geometric shapes in an ordered manner rather than in a random and arbitrary manner that is not ordered. This is all that Applicants seek to accomplish by using the words "a predetermined set of rules."

Reconsideration and allowance of claims 1 through 16, "rejected under 35 U.S.C. 103(a) as being unpatentable over Golshani et al., U.S. Patent 5,774,128, 7/1998, 345/440 and further in view of Myers, U.S. Patent 5,581,677, 12/1996, 345/440," are respectfully requested. It should be noted, at the outset, that the Golshani et al. reference issued in June 1998 and not in July 1998 and that the Myers et al. reference is classified in 395/140 and cross-referenced in 395/326 and is neither classified nor cross referenced in 345/440. The different classifications of the two references can bear on the obviousness of combining the Golshani et al. reference and the Myers et al. reference to reject Applicants' claims.

In Applicants' invention, geometric shapes are associated with data values representing positions in a grid. As such, Applicants' invention relates to "geography" in a grid.

Neither the Golshani et al. reference nor the Myers et al. reference is concerned with geometric shapes associated with data values representing positions in a grid. The Golshani et al. reference relates to a schematic generator for object-oriented database relationships (see ABSTRACT of Golshani et al.), while the Myers et al. reference relates to a display chart produced from example graphics and data values (see ABSTRACT of Myers et al.).

As a result, even after the Golshani et al. and Myers et al. references are combined, Applicants' invention as defined by claims 1 through 16 is different from the combination of the two references. Moreover, the differences between the two references set out above, also evidenced by the different classifications of the two references, make it unobvious to combine the two references in rejecting claims 1 through 16.

Claim 1 calls for:

generating a grid based on a plurality of data values (emphasis added), and

associating each data value of the plurality of data values with one of a plurality of geometric shapes according to a predetermined set of rules

This specifies that Applicants' invention defines positions within a grid that can, for example, be referenced against the axes of the grid. Neither the Golshani et al. reference nor the Myers et al. reference discloses or suggests a method that includes these two steps nor a system that performs these two steps. The Myers et al. reference, cited as disclosing "associating data values with geometric shapes," discloses functional relationships of numerical data using geometric shapes, but not geometric shapes associated with data values representing positions in a grid and there is no teaching or suggestion in the prior art for associating geometric shapes with data values representing positions in a grid.

Because the Golshani et al. and Myers et al. references are directed to such diverse subject matter, Applicants are unable to explain or describe the result of combining the two as the Examiner has proposed or know whether the combination of these two references would result in an operative system or method. Applicants expect that when the Golshani et al. and Myers et al. references are combined to produce something operative, the result will bear little, if any, resemblance to what is disclosed or illustrated by these two references. This negates the obviousness of combining the two references.

Consequently, claim 1 is patentable over the Golshani et al. and Myers et al. references, whether considered individually or together. If the Examiner repeats the rejection of claim 1 based on the Golshani et al. and Myers et al. references, the Examiner is requested to indicate where in the prior art there is support for the conclusion that it would be obvious to combine these two references.

With respect to claims 2, 5, 6, 9, 10, 13, and 14, Applicants offer the same remarks presented above in connection with claim 1 because claims 2, 5, 6, 9, 10, 13, and 14 specify features and details of the present invention similar to those identified above as being taken from claim 1. Consequently, claims 2, 5, 6, 9, 10, 13, and 14 are patentable over the Golshani et al. and Myers et al. references, whether considered individually or together. Again, if the Examiner repeats the rejection of claims 2, 5, 6, 9, 10, 13, and 14 based on the Golshani et al. and Myers et al. references, the Examiner is requested to indicate where in the prior art there is support for the conclusion that it would be obvious to combine these two references.


With respect to claims 3, 4, 7, 8, 11, 12, 15, and 16, claims 3, 7, 11, and 15 have been amended to specify that the data values are associated with a matrix. Applicants offer the same remarks presented above in connection with claims 1, 2, 5, 6, 9, 10, 13, and 14 because claims 3, 4, 7, 8, 11, 12, 15, and 16 specify features and details of the present invention similar to those identified above as being taken from claim 1. Consequently, claims 3, 4, 7, 8, 11, 12, 15, and 16 are patentable over the Golshani et al. and Myers et al. references, whether considered individually or together.

Again, if the Examiner repeats the rejection of claims 3, 4, 7, 8, 11, 12, 15, and 16 based on the Golshani et al. and Myers et al. references, the Examiner is requested to indicate where in the prior art there is support for the conclusion that it would be obvious to combine these two references.

In view of the amendments and arguments set forth above, the above-identified application is in condition for allowance which action is respectfully requested.

Respectfully submitted,

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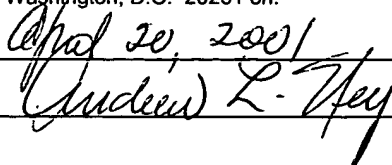
Attachment: Version with markings to show changes made  
One Month Extension of Time

Dated: April 20, 2001

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VERSION WITH MARKINGS TO SHOW CHANGES MADEIN THE CLAIMS:

- 1                   1.     (Once Amended) A method for visualizing data arrays  
2     provided in the form of a plurality of data values, said method comprising the  
3     steps of:
- 4                   generating a grid based on ~~the~~a plurality of data values;
- 5                   associating each data value of the plurality of data values with one  
6     of a plurality of geometric shapes according to a predetermined set of rules;
- 7                   placing said one of the plurality of geometric shapes associated  
8     with each data value of the plurality of data values on the grid; and
- 9                   displaying visual and geometric information placed on the grid to a  
10    user in graphical form.
- 1                   2.     (Once Amended) A method for visualizing data arrays  
2     provided in the form of a plurality of data values, said method comprising the  
3     steps of:
- 4                   generating a grid based on ~~the~~a plurality of data values;
- 5                   identifying one of a plurality of numerical attributes associated  
6     with each data value of the plurality of data values;
- 7                   associating each numerical attribute with one of a plurality of  
8     visual attributes;
- 9                   associating each data value of the plurality of data values with one  
10    of a plurality of geometric shapes each having one of the plurality of visual  
11    attributes, which is consistent with the data value, according to a predetermined  
12    set of rules;

13                   placing said one of the plurality of geometric shapes associated  
14 with each data value of the plurality of data values on the grid; and

15                   displaying visual and geometric information placed on the grid to a  
16 user in graphical form.

1                   3.     (Once Amended) A method for visualizing data provided in  
2 the form of a geometric representation, said method comprising the steps of:

3                   extracting a plurality of data values associated with a matrix from  
4 the geometric representation;

5                   generating a graphic representation of the plurality of data values;  
6 and

7                   displaying the graphic representation to a user.

1                   7.     (Once Amended) An article of manufacture comprising a  
2 computer usable medium having computer readable program code means  
3 embodied therein for visualizing data provided in the form of a geometric  
4 representation, the computer readable program code means in said article of  
5 manufacture comprising computer readable program code means for causing a  
6 computer to effect:

7                   extracting a plurality of data values associated with a matrix from  
8 the geometric representation;

9                   generating a graphic representation of the plurality of data values;  
10 and

11                   displaying the graphic representation to a user.

1                   11.    (Once Amended) A computer program product comprising  
2 a computer usable medium having computer readable program code means

3 embodied therein for causing visualization of data provided in the form of a  
4 geometric representation, the computer readable program code means in said  
5 computer program product comprising computer readable program code means  
6 for causing a computer to effect:

7 extracting a plurality of data values associated with a matrix from  
8 the geometric representation;

9 generating a graphic representation of the plurality of data values;  
10 and

11 displaying the graphic representation to a user.

1 15. (Once Amended) A storage device readable by a machine,  
2 tangibly embodying a program of instructions executable by the machine to  
3 perform a method for visualizing data provided in the form of a geometric  
4 representation, said method comprising the steps of:

5 extracting a plurality of data values associated with a matrix from  
6 the geometric representation;

7 generating a graphic representation of the plurality of data values;  
8 and

9 displaying the graphic representation to a user.